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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,405	12/06/2001	Yong-Ling Ruan	021565-110	5391

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EXAMINER

KALLIS, RUSSELL

ART UNIT PAPER NUMBER

1638

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/003,405	<b>Applicant(s)</b> RUAN ET AL.	
	<b>Examiner</b> Russell Kallis	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12-20, 22, 24, 26, 27 and 30 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 12-17, 22, 24, 26, 27 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 9-11, 21, 23, 25 and 28-29 have been canceled. Claims 1-8, 12-20, 22, 24, 26-27 and 30 are pending. Claims 4-7 and 18-20 are withdrawn. Claims 1-3, 8, 12-17, 22, 24, 26-27 and 30 are examined.

Rejection of claims 1-3, 8-10, 12-17 and 20-30 under 35 U.S.C. 112, first paragraph, is withdrawn in view of Applicant's amendments and arguments.

Rejection of Claims 22-23 under 35 U.S.C. 101 is withdrawn in view of Applicant's amendments.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

Claims 1-3, 8, 12-17, 22, 24, 26-27 and 30 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Conner U.S. Patent 6,080,914 (published 27 June 2000) in view of Ruan Y. *et al.* Plant Physiology, Vol. 115, pp. 375-385 and in further view of Applicant's specification. This rejection is maintained for the reasons of record set forth in the Official action mailed 12/20/2005. Applicant's arguments filed 6/20/2006 have been considered but are not deemed persuasive.

Applicant asserts that there is no motivation to combine the references and that the Office has used hindsight reasoning (response pages 10-11).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

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teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, and contrary to Applicant's assertions, one of ordinary skill in the art would have appreciated the sink specific expression characteristics of the promoters taught by Pat. 6,080,914 and that they would be useful when linked to SuSy for the genetic engineering of cotton seeds and balls as taught in the 6,080,914 patent; and that the teachings of Ruan would have further motivated one of ordinary skill in the art to transform cotton with a polynucleotide encoding a SuSy polypeptide as well, because Ruan teaches SuSy controls cellulose biosynthesis in cotton fiber synthesis or development which is of importance in both solving research questions and in genetic engineering of cotton.

Further, contrary to Applicant's assertions that Ruan does not teach SuSy having a limiting or controlling function in cotton fiber development (response page ) Ruan does indeed state that SuSy is critical for cellulose biosynthesis and hence fiber development (see page 382 column 1 second full paragraph and page 383 first full paragraph).

Furthermore, also contrary to Applicant's assertions that Applicant's first to show a correlation between Susy expression and cellulose biosynthesis Ruan does teach that SuSy expression is positively correlated with cellulose biosynthesis and fiber development in cotton on page 382 in column 2 lines 12-16.

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In addition, also contrary to Applicant's assertion on page 12 of the response lines 17-19 that claims 1 and 14 recite altering sucrose synthase activity; claims 1 and 14 do not recite that sucrose synthase activity has been altered in any way.

Moreover, Applicant's assertion that because Ruan teaches that SuSy is an abundant protein in certain portion of the cotton seed (response page 12 lines 13-16) and that one of ordinary skill in the art would not view the role of SuSy as taught by Ruan as limiting and thus does not argue favorably for providing motivation is indicative of hindsight reasoning; the Ruan reference states that the abundance of SuSy protein (as stated by Applicant on lines 1 and 9 right column of page 383) supports the role of SuSy as controlling carbon flow towards fiber synthesis and thereby controlling fiber synthesis and development. The Ruan reference does not insinuate that there is an over abundance of SuSy but rather strongly suggests that SuSy is controlling fiber development and biosynthesis in cotton; and therefore does provide motivation along with U.S. Patent 6,080,914 which directs one of ordinary skill in the art to transform cotton with fruit specific promoter linked to SuSy to cotton ball and seed.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Russell Kallis Ph.D.  
August 31, 2006

RUSSELL P. KALLIS, PH.D.  
PRIMARY EXAMINER

A handwritten signature in cursive script that reads "Russell Kallis".